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APPLICATION NO	D. F	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/808,375	09/808,375 03/14/2001		Shaorong Liu	PB0006	3335
22840	7590	10/28/2003	EXAMINER		NER
		SCIENCES	NOGUEROLA, ALEXANDER STEPHAN		
PATENT DEPARTMENT 800 CENTENNIAL AVENUE				ART UNIT	PAPER NUMBER
PISCATA	PISCATAWAY, NJ 08855			1753	
				DATE MAILED: 10/28/2003	

Please find below and/or attached an Office communication concerning this application or proceeding.

-		A2-8					
	Application No.	Applicant(s)					
•	09/808,375	LIU, SHAORONG					
Office Action Summary	Examiner	Art Unit					
	ALEX NOGUEROLA	1753					
The MAILING DATE of this communication ap Period for Reply	pears on the cover sheet with the o	correspondence address					
A SHORTENED STATUTORY PERIOD FOR REPL THE MAILING DATE OF THIS COMMUNICATION. - Extensions of time may be available under the provisions of 37 CFR 1. after SIX (6) MONTHS from the mailing date of this communication. - If the period for reply specified above is less than thirty (30) days, a rep - If NO period for reply is specified above, the maximum statutory period - Failure to reply within the set or extended period for reply will, by statute - Any reply received by the Office later than three months after the mailin earned patent term adjustment. See 37 CFR 1.704(b). Status	136(a). In no event, however, may a reply be till ly within the statutory minimum of thirty (30) day will apply and will expire SIX (6) MONTHS from e, cause the application to become ABANDONE	nely filed ys will be considered timely. In the mailing date of this communication. ED (35 U.S.C. § 133).					
1)⊠ Responsive to communication(s) filed on <u>06</u>	August 2003						
•	nis action is non-final.						
3) Since this application is in condition for allow							
Disposition of Claims							
4) \boxtimes Claim(s) <u>1-20</u> is/are pending in the application	n .						
4a) Of the above claim(s) is/are withdra	wn from consideration.						
5) Claim(s) is/are allowed.	Claim(s) is/are allowed.						
6)⊠ Claim(s) <u>1-7,10-16,18 and 20</u> is/are rejected.	Claim(s) <u>1-7,10-16,18 and 20</u> is/are rejected.						
7) \boxtimes Claim(s) 8,9,17 and 19 is/are objected to.	Claim(s) <u>8,9,17 and 19</u> is/are objected to.						
8) Claim(s) are subject to restriction and/o	or election requirement.						
9) The specification is objected to by the Examine	er.						
10)⊠ The drawing(s) filed on 11 August 2003 is/are:	a)⊠ accepted or b)□ objected to b	y the Examiner.					
Applicant may not request that any objection to the	e drawing(s) be held in abeyance. S	ee 37 CFR 1.85(a).					
11)☐ The proposed drawing correction filed on	_ is: a)□ approved b)□ disappro	oved by the Examiner.					
If approved, corrected drawings are required in re	ply to this Office action.	•					
12) ☐ The oath or declaration is objected to by the Ex	kaminer.						
Priority under 35 U.S.C. §§ 119 and 120							
13) Acknowledgment is made of a claim for foreig	n priority under 35 U.S.C. § 119(a	a)-(d) or (f).					
a) ☐ All b) ☐ Some * c) ☐ None of:							
1. Certified copies of the priority document	ts have been received.						
2. Certified copies of the priority document	ts have been received in Applicat	ion No					
 3. Copies of the certified copies of the prior application from the International But * See the attached detailed Office action for a list 	ıreau (PCT Rule 17.2(a)).	-					
14)⊠ Acknowledgment is made of a claim for domest							
a) The translation of the foreign language pro	• •						
Attachment(s)							
1) Notice of References Cited (PTO-892) 2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s)	5) Notice of Informal	y (PTO-413) Paper No(s) Patent Application (PTO-152)					

Page 2

Application/Control Number: 09/808,375

Art Unit: 1753

Response to Arguments

1. Applicant's arguments filed August 06, 2003 have been fully considered but they are not persuasive. With respect to the rejection of claims 1 and 10 under 35 U.S.C. 102(b), page 9 of Applicant's amendment, bridging to page 10, states,

'Applicant submits that Manz does not teach, or even suggest, a shaped microfabricated capillary array electrophoresis chip having a first major surface defining converging first and second elongate separate channels. Further, since Manz does not teach "a shaped capillary electrophoresis chip having a first major surface, converging first and second elongate separation channels, and first and second perimetrical edge segments," Applicants respectfully submits that claim 10 [and presumably claim 1] is not anticipated by Manz.'

The examiner's rejection of claims 1 and 10 under 35 U.S.C. 102(b) is detailed. In the rejection every feature claimed by Applicant has been identified in Manz's disclosure. Applicant is invited to specifically indicate which claimed feature(s) is not disclosed by Manz or has been incorrectly identified in the rejection as being taught by Manz.

Status of the Objections and Rejections Pending since the Office action of May 06, 2003

- 2. The objections to the drawings are withdrawn.
- 3. The rejection of claim 4 under 35 U.S.C. 112, second paragraph, is withdrawn.

Application/Control Number: 09/808,375 Page 3

Art Unit: 1753

4. The rejection of claims 1 and 10 under 35 U.S.C. 102(b) as being anticipated by Manz is maintained.

5. The rejection of claims 1-20 under 35 U.S.C. 103(a) as being unpatentable over Zanzucchi in view of Roach is withdrawn.

Claim Rejections - 35 USC § 102

- 6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
- 7. Claims 1-7 and 10-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Manz (US 5,296,114).

Addressing claims 1 and 10, Manz teaches a shaped microfabricated capillary array electrophoresis chip (the abstract; Figure 1; and col. 4, ll. 14-16) comprising

a planar substrate (element 1 in Figure 1) having a first major surface defining converging first and second elongate separate channels (any pair of intersecting channel sections, such as, 5 and 6 or 8 and 7), wherein each separation channel section extends between an associated cathode port and an anode port defined by the first major surface (at the end of each channel section is one of the electrode ports 20-27), wherein the substrate further comprises a first perimetrical edge segment extending substantially along the first separation channel section;

Art Unit: 1753

and a second perimetrical edge segment extending substantially along the second separation channel section (as seen in Figure 1 each channel section is close to and parallel to an edge of the chip).

Note that Manz teaches that the chip does not have to be rectangular; he teaches a general n-sized figure, which preferably has at least three sides (col. 6, ll. 38-46).

For claim 10 note that since Manz teach a shaped capillary electrophoresis chip having a first major surface, converging first and second elongate separation channels, and first and second perimetrical edge segments as claimed, they must have been provided or formed.

Addressing claim 2, Figures 3 and 4 show a common anode port for the separation channels.

Addressing claims 3 and 15, an inlet port and an outlet port for each separation channel is taught by Figure 1 and col. 6, ll. 18.

Addressing claims 4 and 16, as seen in Figure 1 all the separation channels extend linearly.

Addressing claims 5, 6, 11, and 12, as seen in Figure 1 the perimetrical edges are 90 degrees with respect to each other. Also, note again that Manz teaches that the chip does not have to be rectangular; he teaches a general n-sized figure, which preferably has at least three sides (col. 6, 11. 38-46).

Art Unit: 1753

Addressing claim 7, Figure 1 shows a cathode in fluid communication with a pair of separation channels.

Addressing claims 13 and 14, Figures 3 and 4 show a separation channel 8, for example, extending between anode U+ and cathode U-. Note that although only two electrodes are shown in Figures 3 and 4, Manz clearly teaches an electrode at each end of each separation channel (Figures 3-8 cumulatively and col. 5, ll. 5-15).

Claim Rejections - 35 USC § 103

- 8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
- 9. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Manz (US 5,296,114).

Manz teaches a shaped microfabricated capillary array electrophoresis chip (the abstract; Figure 1; and col. 4, ll. 14-16) comprising

a planar substrate (element 1 in Figure 1) having a first major surface defining converging first and second elongate separate channels (any pair of intersecting channel sections, such as, 5 and 6 or 8 and 7), wherein each separation channel section extends between an associated cathode port and an anode port defined by the first major surface (at the end of each

Art Unit: 1753

channel section is one of the electrode ports 20-27), wherein the substrate further comprises a

first perimetrical edge segment extending substantially along the first separation channel section;

and a second perimetrical edge segment extending substantially along the second separation

channel section (as seen in Figure 1 each channel section is close to and parallel to an edge of the

chip).

Note that Manz teaches that the chip does not have to be rectangular; he teaches a general

n-sized figure, which preferably has at least three sides (col. 6, 11, 38-46).

Although Manz does not mention a second chip having the features of the chip described

above, this is mere duplication of parts, which has been held obvious. It would have been

obvious to one with ordinary skill in the art at the time the invention was made to provide two or

more chips so that electrophoresis separations on two or more samples can be simultaneously

performed. As for the limitation of the first chip cooperatively engaging the second chip this

appears to only mean that the chips can be placed side-by-side flush one against the other

(Figure 4 and the last paragraph on page 6 of Applicant's specification). The chip embodiment

shown in Figure 1 of Manz would cooperatively engage another such chip.

Allowable Subject Matter

10. Claims 8, 9, 17, and 19 are objected to as being dependent upon a rejected base claim, but

would be allowable if rewritten in independent form including all of the limitations of the base

claim and any intervening claims.

Art Unit: 1753

The following is a statement of reasons for the indication of allowable subject matter: 11.

a) Claim 8 requires a grouped pair of elongate separation channels extending in fluid

communication between a common cathode port and anode port and having a loading segment;

b) Claim 9 depends from allowable claim 8;

c) Claim 17 requires forming a grouped pair of elongate separation channels extending in

fluid communication between a common cathode port and anode port and having a loading

segment;

d) Claim 18 depends from allowable claim 17; and

e) Claim 19 requires forming 48 converging channels in the first major surface.

12. Any inquiry concerning this communication or earlier communications from the

examiner should be directed to ALEX NOGUEROLA whose telephone number is (703) 305-

5686. The examiner can normally be reached on M-F 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, NAM NGUYEN can be reached on (703) 308-3322. The fax phone number for the

organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number is (703) 308-0661.

Alex Noguerola
10/24/03
Primary Examiner

Page 7